

In re Application of Murphy et al
Serial No. 09/600,398

Sub
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C3
samples, wherein an increase in the amount of total adenylate kinase indicates
that said bacteria are not sensitive to said agent.

REMARKS

Reconsideration is requested.

Claims 1 to 35 and 37 are pending. Claim 4 has been amended above,
without prejudice, to advance prosecution.

The Section 112, first paragraph, rejection of claims 4-20 is obviated by
the above amendments. Withdrawal of the rejection is requested as the claims
now positively recite a method of determining susceptibility. The applicants
respectfully urge the Examiner to see pages 8-12 and Examples 4 and 5 of the
specification teaches how to achieve a method of determining the susceptibility
of a bacteria to the recited reagent. Withdrawal of the Section 112, first
paragraph, rejection is requested.

The Section 112, second paragraph, rejection of claims 4-20 is traversed.
One of ordinary skill in the art will appreciate the metes and bounds of the phrase
"susceptibility of a bacteria" within the context of the presently claimed invention.
The claim defines comparisons to determine the recited susceptibility of the
bacteria and nothing further should be required. Claims 14 and 17 have been
amended for consistency. Withdrawal of the Section 112, second paragraph
rejection is requested.

The Section 102 rejection of claims 4-16 over Squirrel (WO 96/02666) is
traversed. Reconsideration and withdrawal of the rejection are requested as the
cited art fails to teach each and every aspect of the claimed invention.

The Section 103 rejection of claims 4-20 and 36 over Squirrell (WO 96/02666) and Sanders (WO 94/064931) has been withdrawn on page 2 of Paper No. 9 while claims 4 and 17-20 have been rejected under Section 103 over the same art on pages 8-10 of Paper No. 9. Clarification is requested regarding this apparent inconsistency in the event any of the pending claims remain rejected over this combination of art after entry and consideration of the present Amendment.

The Examiner's comments with regard to the patentable weight the Examiner affords to the preamble are noted. While not believing the Examiner's comments are reasonable, the applicants submit that the pending claims, which contain a further recitation of the method steps, are patentable over the cited art for the reasons of record. Reconsideration and withdrawal of the Section 103 rejection are requested.

Return of an initialed copy of the attached PTO 1449 Form, pursuant to MPEP § 609, is requested.

Acknowledgement of the acceptability of the drawings, in the Examiner's next communication, is requested.

In view of the above and attached, the claims are submitted to be in condition for allowance and a Notice to that effect is requested.


Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

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Respectfully submitted,

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MARKED-UP COPY OF AMENDED CLAIMS

IN THE CLAIMS:

Amend the claims as follows:

4. (Twice Amended) A method for determining the susceptibility of a bacteria to a reagent selected from an antibiotic or biostatic compound or a compound suspected of having antibiotic or biostatic properties, which method comprises the steps of:

of:

~~(i) assaying for adenylate kinase released by lysis of bacteria from a culture containing said reagent;~~

~~(ii) — assaying for adenylate kinase released by lysis of bacteria from one or more of the following cultures:~~

~~a) — the culture of step (i) but prior to the addition of said reagent~~

~~b) — the culture of step (i) at a different point in time to the assaying of step (i); and~~

~~c) a similar culture to that of step (i) but that does not contain said reagent; and~~

(i) dividing a culture comprising said bacteria into at least a first sample, a second sample and, optionally a third sample,

(a) lysing bacteria in said first, or optional third, sample, without further culturing of said sample, in the absence of said reagent, to form a lysed sample,

and measuring the amount of any adenylate kinase (AK) present in said lysed sample,

(b) incubating said first, or optional third, sample, which has not been treated in step (a), in the absence of said reagent, to form an incubated sample, lysing bacteria in said incubated sample to form a lysed-incubated sample, and measuring the amount of any AK present in said lysed-incubated sample,

(ii) incubating said second sample in the presence of said reagent to form an incubated mixture, lysing bacteria in said incubated mixture to form a lysed-incubated mixture, and measuring the amount of any AK present in said lysed-incubated mixture; and

(iii) comparing the measured amount of any AK present in (i) with the measured amount of any AK present in (ii) to determine the susceptibility of said bacteria to the reagent; wherein,

when the measured amount of AK present in the sample of (i)(b) is greater than the measured amount of AK present in the sample of (ii), then the bacteria are susceptible to said reagent, the magnitude of such a difference being indicative of the degree of susceptibility of said bacteria to said reagent wherein a larger difference is indicative of a greater susceptibility; and

(iii) comparing results of the assays of step (i) and (ii) to determine the

when the measured amount of AK present in the sample of (ii) is greater than the measured amount of AK present in the sample of (i)(a), then the magnitude of the difference between the AK content of the sample of (ii) and

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(i)(a) indicates the degree of susceptibility of bacteria to said reagent wherein a smaller difference is indicative of a greater susceptibility.

14. (Amended) A method according to ~~claim 4~~[?] for determining the sensitivity of a bacteria to a lytic antibiotic, said method comprising the steps of (i) separating said bacteria from other microbial species (ii) determining the extracellular adenylate kinase content of a culture of said bacteria (iii) adding the lytic antibiotic to the culture and incubating it for a period sufficient to allow the antibiotic to exert its lytic effect, and (iv) determining the extracellular adenylate kinase content of the culture to assess whether lysis has taken place, wherein a greater amount of extracellular adenylate kinase in step (iv) as compared with step (ii) indicates said bacteria is sensitive to the lytic antibiotic.

17. (Amended) A method according to ~~claim 4~~ for determining the sensitivity of a bacteria to a non-lytic antibiotic or biostatic agent, said method comprising (i) separating said bacteria from other microbial species, (ii) incubating a culture of said bacteria in the presence of said non-lytic antibiotic or biostatic agent (iii) determining whether the total adenylate kinase content of the culture increases or decreases over the period of the incubation by removing samples at spaced time periods, lysing bacteria in these samples and assaying for adenylate kinase in said samples, wherein an increase in the amount of total adenylate kinase indicates that said bacteria are not sensitive to said agent.